DOCUMENT RESUME

ED 329 680 CE 057 078

AUTHOR Grubb, W. Norton
TITLE The Developing Vocational Education and Training "System": Partnerships and Customized Training. Reprint Series.
INSTITUTION National Center for Research in Vocational Education, Berkeley, CA.
SPONS AGENCY Office of Vocational and Adult Education (ED), Washington, DC.
PUB DATE May 89
NOTE 24p.; Chapter in "Public-Private Sector Collaboration in Education, Proceedings of the Tenth Annual Rupert N. Evans Symposium, May 2-3, 1989."
AVAILABLE FROM NCRVE Materials Distribution Service, Horrabin Hall 46, Western Illinois University, Macomb, IL 61455 (Order No. MDS-230, $1.00).
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Economic Development; Educational Development; High Schools; Industry; *Job Training; *Labor Force Development; Postsecondary Education; *School Business Relationship; Two Year Colleges; *Vocational Education
IDENTIFIERS *Customized Training; *Partnerships in Education

ABSTRACT

One legacy of the United States' emphasis on individualism is a system of vocational education disconnected from employers. Collaboration is an attempt to replace hostility with closer relations between the public and private sectors. The movement for partnerships comes as the "system" of work-related education and training is becoming increasingly complex due to institutional expansion, dissatisfaction with some components of the "system," and the discovery of new needs. Customized training is one particular kind of partnership between employers and public education and training institutions. Advantages to vocational institutions are connection with employers; vocational programs kept current by firms' contributions of equipment; new opportunities for combining general and specific training; and a placement mechanism. Drawbacks to customized training include shifts in employment; potential bias in the composition of trainees; and narrow vocationalism. An analysis of some customized training programs shows that many programs have the potential for exploiting their strengths. Implications are that: (1) customized training should be more systematically evaluated; (2) states and the Federal Government should ensure that economic development efforts do not merely reallocate existing employment; and (3) vocational education should be targeted to businesses that might expand employment and production. (15 references) (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED329680

NCRVE

National Center for Research in Vocational Education

University of California, Berkeley

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Reprint Series

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

P Seidman

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

The Developing Vocational Education and Training "System": Partnerships and Customized Training

W. Norton Grubb

University of California at Berkeley

National Center for Research in Vocational Education
University of California at Berkeley
1995 University Avenue, Suite 375
Berkeley, CA 94704

NCRVE is supported by the Office of Vocational and Adult Education, U.S. Department of Education.

This chapter first appeared in *Public-Private Sector Collaboration in Education*, Proceedings of the Tenth Annual Rupert N. Evans Symposium, May 2-3, 1989, pp. 8-29. Reprinted with permission of the editors.

This document is one in a continuing series of reprints. It has not been reviewed by NCRVE. Therefore, this chapter represents the views of the author. NCRVE makes these reprints available upon request for informational purposes.

The Developing Vocational Education and Training "System": Partnerships and Customized Training

W. NORTON GRUBB

"Partnerships" — partnerships between business and the public sector — have become increasingly widespread during the 1980s. Their popularity seems to date from the early years of the Reagan administration, with the greater power and visibility of business as the country turned to the right. But there is another way to view these creations, particularly for those of us who are unhappy about the conservative drift of the past decade: Partnerships are in part an antidote to one of the least lovely aspects of American exceptionalism. American exceptionalism refers to the ways our country developed differently from our European progenitors, with a much more virulent form of individualism, a much more limited role for the state to play, and therefore a form of capitalism much less restrained by public influences. The result has always been a greater hostility between public and private sectors — a deeper distrust of business towards any kind of government involvement or regulation, and a much greater hostility of those in the public sector toward what the private sector is doing.

We can see this kind of hostility in the development of the vocational education system as well. As part of the movement for

---

Dr. W. Norton Grubb is Professor of Education, University of California, Berkeley, and Director for the National Center for Research in Vocational Education. The research reported in this paper has been supported by the National Center for Research in Vocational Education and the U.S. Department of Education. However, this paper has not been reviewed by the National Center, and is not an official Publication of the Center.

vocational education after 1900, a battle between capital and labor took place over who would control job training. From their side, many manufacturers — especially small- and medium-sized manufacturers — excoriated labor unions for controlling entry into skilled trades; in their support for vocational education in the public schools, they seemed much more interested in wresting control over training from the labor movement than they were in the content of vocational programs. Once the movement for vocational education in the schools was won, their enthusiasm for vocational education dissipated, replaced by indifference. From its side, labor complained about the efforts of business to squash unions, and castigated the first privately-owned vocational training schools as "scab hatcheries", breeding grounds for strike-breakers; labor feared that vocational education would help business control the training that had once been the responsibility of unions through apprenticeship programs. Labor was initially ambivalent about vocational education in the public schools, fearing that it would become a second-class education for working-class students, but they joined the movement for vocational education largely to have a say in its development, and to prevent business from having a monopoly over its direction (Lazerson and Grubb, 1974). The legacy of this historical development was a system of vocational education disconnected from employers, in which the public and the private sectors have viewed each other with distaste and distrust if not outright hostility, in which reformers have since had to work to restore some connection between education and employers.

We can now see much more clearly that the mutual distrust and hostility which are the consequences of exceptionalism are serious impediments: this approach doesn't develop good public policy or effective public programs, and many of our trading partners — including Japan and many European countries — provide us evidence that hostility between the public and private sector is detrimental to economic development as well. One way we can understand the new interest in collaboration, then, is as an antidote to the division between the public and private sectors, an attempt to replace hostility with closer relations between the public and private sector.

In the rest of this paper, I will first trace the elaboration of education and training programs over the past three decades, and then focus on a particular kind of partnership between employers and public education and training institutions — customized training. Customized training, which I define as training undertaken by a public institution for a particular employer, can take many different

forms, but it always involves a close working relationship with a specific employer — or, more rarely, a group of employers — and therefore constitutes a partnership with a specific purpose. It differs from conventional vocational education in preparing students for a specific employer rather than preparing them for the labor market in general, though the extent of "customization" — or content developed for the particular employer — varies considerably; and customized training usually differs from other vocational programs in the particulars of duration, intensity, location, funding, and procedures for selecting students. Customized training exemplifies the pros and cons of partnerships generally, and given the evident increases in such arrangements it is important to scrutinize them carefully, to understand better both their potential and their possible liabilities.

The Development of the "System" of Work-Related Education and Training

The movement for partnerships comes as the "system" of work-related education and training is becoming increasingly complex. In fact, the development of partnerships and customized training in particular is itself part of the elaboration of education and training programs. Just three decades ago, work-related education and training was quite simple, and small in scope. High schools provided some vocational education, but there was relatively little of it — since perhaps one fifth of high school students were enrolled in any kind of vocational education — and was widely regarded as peripheral (Levitan and Mangum, 1969). Community colleges offered some vocational courses; but despite decades of efforts by some reformers to convert the community colleges into vocational institutions, almost all students were enrolled in transfer programs. A few states sponsored technical institutes, in place of or alongside community colleges, but no other public institutions provided vocational education and training. The only federal support came through the Smith-Hughes Act, which provided about $50 million for vocational education. Private vocational schools existed, of course, most of them in a few well-defined areas: cosmetology and barbering, secretarial and office training dominated.

In the past three decades the work-related education and training "system" has both expanded enormously and become institutionally complex. High schools still provide vocational education, but they have been joined by adult schools and area vocational schools, which cater both to secondary and post-secondary students; by community colleges, which became predominantly

vocational institutions during their enormous expansion in the 1960s and 1970s; and by increasing numbers of technical institutes and colleges. Outside the educational system, programs funded by the federal Job Training Partnership Act (JTPA) provide shorter-term job training to various groups of disadvantaged and at-risk individuals, and states have established their own training programs, most of them linked to economic development. Another set of programs provides job training to welfare recipients, as part of the recent "welfare-to-work" initiatives. Many job training and welfare-related programs are provided by community-based organizations, trade unions, firms, and other institutions that received no public funds thirty years ago, adding to the variety of institutions providing training. Finally, private vocational schools have by all accounts expanded enormously, and have come into the public realm indirectly because of the substantial amounts of student aid they receive. Many hybrid institutions have developed, combining funds from different programs (and sometimes from private sources) to provide many different employment-related services to their clients. A complex "system" — in reality a non-system of many uncoordinated parts — has evolved in relatively short period of time.

There are at least three different reasons for the elaboration of work-related education and training. One is the process of institutional expansion: entrepreneurial institutions expand in any ways that they can. In many states there has been a process where the secondary-level area vocational schools established in the 1960's developed into technical institutes serving more adults, and then became community colleges with the addition of academic programs. Of course, community colleges expanded enormously in the 1960's and 1970's and moved dramatically into vocational education in the process of doing so (Brint and Karabel, 1989; Grubb, 1984). The increasing enrollments in private vocational training schools, especially with the availability of student aid, provide yet another example of institutional expansion. In the process we can see institutions taking on different roles as they seek to maximize their enrollments: area vocational schools became postsecondary institutions and even comprehensive community colleges, transfer-oriented community colleges became (in many cases) predominantly vocational institutions.

A second reason for the increasing complexity of this "system" is dissatisfaction with some of its components. The rise of manpower training programs in the 1960's, organized outside the public school system, was partly due to dissatisfaction with school-

based vocational education; the legacies included the CETA (Comprehensive Employment and Training Act program of the 1970s and JTPA (the Job Training Partnership Act) programs of the 1980s, which provide a conception of work-related training quite different from that of most vocational education. Similarly, the welfare-related training programs which emerged in the 1960's, recently strengthened in JOBS (Job Opportunities and Basic Skills) program in the Family Support Act of 1988, reflect dissatisfaction with the way welfare recipients have been treated in both schools and in job training programs. Many of the innovations in the education and training "system" also reflect dissatisfaction with performance; for example, the development of performance standards and of Private Industry Councils (PICs), with a majority of employers, governing JTPA programs were efforts to improve the connections with employers and hold these programs to standards of accountability.

Yet another reason for the elaboration of the "system" of work-related education and training, partly related to dissatisfaction with existing programs, is the discovery of new needs, including groups of clients poorly served by the existing programs. Job training programs, starting with the manpower training programs of the 1960s and including JTPA, serve a group of individuals who are not likely to be in school-based programs; welfare-to-work programs similarly include individuals who would otherwise be left out of the "system". The most recent development along these lines has been the enactment of state-funded job training programs linked explicitly to economic development, where the "client" of the program is considered to be the employer rather than the individual trained (Grubb and McDonnell, 1989). The rationale for these new programs has in most cases included the need for economic development — itself a new goal for education and training institutions — along with the perception that existing programs, including vocational education, were not serving the interests of employers very well. Many of these programs have followed the lead of JTPA by requiring a governing board dominated by employers; several of them, including California's Employment Training Panel and the Bay State Skills Corporation in Massachusetts, created new mechanisms of delivering training because of the perceived inadequacies of existing institutions (though most of the programs operate through existing institutions, especially community colleges and public technical institutes). Almost all of these new programs support customized training — the provision of relatively firm-specific skill training for individual firms, a form of training which is more responsive to a firm's requirements than are general vocational programs. Thus publicly-funded

customized training is both the most recent elaboration in the increasingly complex "system" of work-related education and training, providing a new view of what training should look like, and is a good example of an effort to use public programs to sponsor a particular type of partnership between employers and public education and training institutions.

Customized Training: Partnerships in the Service of Economic Development

In addition to capitalizing on the recent interest in partnerships, customized training has also drawn upon the sometimes desperate search for programs to enhance economic development. Institutionally, customized training is provided in a variety of different settings. Many community colleges, postsecondary technical institutes, and area vocational schools provide training to specific firms, using regular funds generated by enrollments as well as funds from federal sources including the Carl Perkins Act and the Job Training Partnership Act (JTPA). The JTPA program itself provides support for work experience programs and on-the-job training, sometimes through educational institutions but often through community-based organizations, unions, and firms. The recent amendments to JTPA, in the Omnibus Trade Bill of 1988, will (if funded) expand federal funding for displaced worker programs, and require that such programs be jointly devised with employers, strengthening the likelihood of firm-specific training. Finally, a number of states have devised their own training programs — like the Employment and Training Panel in California, and the Bay State Skills Corporation in Massachusetts — most of which provided firm-specific training. Some states (like Colorado) have had a specific policy forbidding state funds in educational institutions from being used for customized training, though most appear not to have formulated any specific policy.

The variety of public funding sources is matched by variety of the training programs themselves. Some operate with substantial subsidies from firms, or firm donations of equipment, materials, space, and even instructors, while others appear to depend wholly on public subsidies. Some take place on a firm's premises, while others are located on the campus of a postsecondary institution or in some third location. In some, the firm participates in choosing participants, while in others the institution providing the training recruits and selects the participants. Many customized programs operate with

open entry/open exit schedules, though some also use the regularly-scheduled programs of their institutions, operating on a standard academic schedule. Most customized training programs appear to be of relatively short duration, however, certainly shorter than the period required for a certificate program or an Associate degree. Since there has not yet been a census of any kind, it is difficult to generalize about customized training; about the only certainty is that the number and variety of these programs has increased substantially over the past few years.

Customized training offers some obvious and powerful advantages to vocational institutions. One of the most important is the connection it provides to employers. A persistent criticism of vocational education is that it tends to become insulated from labor market developments, to rigidify into unvarying courses (like high school shop, clerical courses, and home economics) which ignore changes in employment and the skills required on the job. This accusation, most frequently leveled against high school programs, is also expressed by administrators in job training programs who complain that vocational education is too unresponsive to changing conditions, unwilling to vary the standard academic format of semesters, and insufficiently oriented to performance and placement. However, especially at the postsecondary level, the activity around customized training presents a very different image of these institutions: they appear flexible, responsive, creative in devising alternative formats for vocational courses, and willing to work with employers in customizing training rather than teaching courses in the same way to all students.

A second obvious advantage to customized training is that, where firms make contributions of equipment, they can help vocational programs keep up to date. Vocational programs all seem to have a hard time finding the funds to purchase equipment, especially in high-tech areas where equipment is expensive and changes rapidly; most states provide relatively little funding for equipment, and most fail to provide any cost differentials for the higher costs of certain vocational programs. While much of the program improvement funds of the Carl Perkins Act are used for equipment, the amounts of such funds in most states are quite insubstantial, amounting to between two percent and four percent of postsecondary vocational budgets (Grubb and Stern, 1989a). Therefore contributions of equipment or materials can be a real benefit to keeping vocational programs current.

Customized training also presents new opportunities for combining general and specific training. The balance between the two has always been an issue in vocational programs, but ways of integrating general or academic skills with more narrow, job-specific skills has been difficult to achieve, at least in vocational programs without a cooperative work component. But with customized training, students can enroll in general vocational courses and academic courses at the same time that they receive firm-specific training, in theory facilitating the integration of general and specific education. Whether many customized training programs take advantage of this opportunity is unclear; indeed, most of them appear to be too short, and too focused on the needs of firms, to pay much attention to such integration. But the opportunity to do so still exists.

Yet another advantage of customized training is that it provides an obvious placement mechanism. Community colleges have often been faulted for having weak placement efforts, and certainly they do not stress placement services to the same extent that welfare-to-work or JTPA programs, with their placement-oriented performance standards, do. But placement in customized training programs is almost certainly higher than in other vocational programs, providing obvious benefits to students and postsecondary institutions.

Finally, customized training may be socially efficient, as well as beneficial to firms and students. If there are economies of scale in training, then small and medium-size firms cannot provide their own training except at enormous cost per worker. Indeed, it appears that many of the firms who have participated in customized training programs are small and medium-size, turning to community colleges and technical institutes precisely because they are better organized to provide training, at lower costs for organization and overhead, than are firms.

The most obvious benefit of customized training — the benefit to the firm, in the form of lower training costs and improved productivity — isn't clear until we know the division of cost between the firm and the educational institution. If the firm pays the full cost of its specific training, then the advantage to the firm comes from the possible economies of scale, or perhaps from the greater joint productivity of specific training undertaken with general or academic education. If, on the other hand, the public sector pays for the majority of costs through its subsidies to community colleges and technical institutes, or through the recent state-funded job training programs,

then the firm benefits from having its training expenses paid at public expense. Many programs of customized training justify their performance by evidence of decreased costs to firms, as if this were justification enough (Fadale and Winter, 1988; Office of the Legislative Analyst, 1986).

Customized training seems to have something for everyone, then: students get appropriate training and then are placed, presumably at higher rates than in conventional vocational programs; firms get part of their training costs subsidized; educational institutions increase their enrollments, enhance their services to their communities, and strengthen their connections to employers, and (we hope) communities benefit from economic development.

Nonetheless, there are potentially serious drawbacks to customized training. One way to clarify the potential limitations of customized training is to ask how it might be expected to further economic development. One answer, of course, is that by lowering training costs it might lure employment from other regions — the approach of "smokestack-chasing" which has often dominated economic development efforts in the past, but which has been generally discredited. Not only are there serious questions about whether relatively minor training subsidies can have much effect on the location of firms, this kind of "beggar-thy-neighbor" policy is indefensible, from a national perspective, except in special circumstances.[1] Indeed, customized training may operate to shift employment away from high unemployment areas: in California there are some indications that customized training programs in community colleges are helping to draw employment away from central cities and to suburban areas, exacerbating the problems of minority unemployment.[2]

There are three other relatively obvious objections to customized training. One involves its role in affirmative action, in gaining access to employment for minorities and access to non-traditional occupations for women. If the educational institution recruits and selects the individuals to be trained in a customized program, then we would expect there to be affirmative action policies in place; although they may not work as well as one would like, two-year colleges and technical institutes have been more committed to affirmative action than almost any other sector of education. If, on the other hand, the firm recruits and selects trainees, or selects trainees from its existing labor force, then any patterns of employment discrimination within the firm may show up in the customized training

program as well. Evaluations of customized training programs therefore need to consider the composition of trainees, to ensure that existing policies designed to enhance the employment of minorities and women are not undermined. However, it is also important to recognize that where customized training is used for skills upgrading and retraining of existing workers who might otherwise be laid off, then there is no alternative to having the firm select the trainees, and the issue of potential bias in the composition of trainees may be intractable.

Yet another practical concern about customized training involves a long historical battle over vocational education. A persistent criticism is that vocational education tends to become overly narrow and occupation-specific, so that individuals trained are prone to become unemployed as production methods change and particular sectors decline (Grubb, 1979). The recent criticism from the business community of "narrow vocationalism" has been the most recent expression of this concern, which has generally led to efforts to broaden vocational programs and integrate them more firmly with academic components. The emphasis on flexibility in the labor force also argues for more general training.[3] But customized training — along with short-term JTPA programs and the job training programs sponsored by states — represents the contrary trend, in the direction of more specific and narrowly-defined training. This generates the question of whether customized training programs are in the *long-run* interests of employees and employers, or whether they simply serve to provide short-term training which is quickly made obsolete. If so, then their effects on wages and on economic development may be short-lived and illusory.

A third possibility is that customized training merely substitutes for the training which firms would otherwise provide themselves. For example, in an examination of customized training in New York, 34 percent of firms would have provided training in the absence of customized training, and another 45 percent would have purchased training elsewhere; only 20 percent reported that they would not have provided training (Fadale and Winter, 1988). This implies again that the customized program provided a simple subsidy to most firms, but no change in their training or in subsequent productivity.

These potential problems with customized training are relatively concrete, and — in principle at least — easy to evaluate. However, there are other less obvious problems with customized

training that are also more difficult to evaluate. If customized training is promoted as a way of enhancing local employment rather than "smokestack chasing", then the appropriate question is how it might be expected to increase employment, and by how much. Based on a simple microeconomic analysis (Grubb and Stern, 1989b), the effects of any training program on the employment and wages of trainees depend crucially on the nature of demand, and efforts to use vocational education to enhance employment and production should target their efforts on specific occupations and sectors — particularly on those occupations where demand will increase substantially as wages fall, so that those trained are likely to increase employment rather than substituting for other workers. These conclusions apply to customized training just as much as they do to other forms of vocational education.

A special danger arises from the nature of customized training, which almost by definition prepares workers for positions requiring significant amounts of firm-specific training. In the presence of firm-specific skill requirements, demand for workers will be less sensitive to wages than in the case of workers not requiring specific training; furthermore, empirical estimates indicate that demand is particularly insensitive to wages for non-professional or non-managerial employees (Stern and Grubb, 1988). Thus the danger is that the types of occupations which are usually the targets of customized training programs may be those for which training is least effective as a way of increasing employment, and which increase employment only by reducing wages substantially.

This analysis points up another problem involved in the public subsidy of firm-specific training. Within economics, a convention has developed that firms should pay the costs of firm-specific training, since they reap the benefits; and that individuals, or government, should pay only for relatively general training (Becker, 1975). Firms have no incentive to pay for the general training of their employees, because their employees could then leave to receive higher wages elsewhere. Conversely, government subsidy of firm-specific training will be inefficient, since by lowering the costs of training it will induce firms to hire more workers than it otherwise would and will provide them too much specific training. However, government subsidy of specific training will increase both wages and employment more than the simple expansion of a vocational program in the absence of a specific training component would, precisely because it increases the demand for trained workers by the firm as

well as increasing the supply of trained workers. (These conclusions are developed in Grubb and Stern, 1989b, and Stern and Grubb, 1988).

This creates a dilemma for public policy: Customized training is likely to have more positive effects on employment and earnings than do conventional education programs, and thus may be superior from the perspective of economic development; but *if* government subsidizes the entire cost of customized training then customized training constitutes a public subsidy of private training, a subsidy from taxpayers as a whole to firms and students, and its costs to government will outweigh its benefits to the individuals trained and to firms. This conclusion suggests that, because there have been strong political constituencies for economic development, and because of the growing notion that firms should be the primary "clients" of vocational education, there may be strong pressures for public subsidy of firm-specific training even when this may not be in the public interest.

Examining Some Customized Training Programs

There are, then, many potential benefits of customized training, but there are substantial dangers as well. One way to disentangle which of these predominate is to examine some customized training programs, to see whether or not they exploit the potential of customized training and avoid the pitfalls, and to examine the recent state-funded job training programs which often support customized training. In the absence of any "census" of customized training efforts, we have examined a group of programs which applied to the American Association of Community and Junior Colleges for its "Keeping America Working" awards, given annually for innovative cooperative efforts between community colleges and technical institutes and employers.[4] Admittedly these are not a random sample of cooperative efforts, but rather those which consider themselves good enough to vie for a national award; it is possible that they do not reflect the general patterns of customized training in this country. Still, they represent the efforts of some forward-looking educators and business people to develop partnerships, and there is probably more to be learned from them than from mediocre programs.

These various partnerships were initiated by firms in about half the cases, initiated by the educational institution in about one quarter of the cases, and jointly devised — often because of an on-going history of collaboration — in the remaining quarter of cases. The

process of initiation therefore seems to be a two-way street, with both firms and postsecondary institutions initiating programs in different cases. Most of the time — in at least two-thirds of the cases — the "client" was an individual firm, but in about 10 percent of cases a group of firms constituted the client, while the remainder of arrangements involved either government agencies or groups of firms and government agencies.

In cases where the "client" was a single firm, about two-thirds of the firms involved were national and international companies, and only a third were purely local or regional firms. This finding suggests that customized training efforts have not concentrated on small- and medium-size firms of purely local or regional scope, but have instead worked extensively with larger firms. The implications for economic development are not clear, though the large number of programs with national firms may suggest a strategy of chasing after the branch plants of national firms — a variant of "smokestack chasing" — rather than helping local firms expand.

Most of the firms involved in customized training were engaged in manufacturing, in a striking diversity of sectors. The other common sector of economic activity included firms involved in transportation, including trucking firms, bus companies, and railroads. Very few of these projects involved service activities, retailing, wholesaling, or professional firms. The sectors involved in these customized training efforts seem to be consistent with targeting sectors likely to generate exports.

The vast majority of these partnerships — about 80 percent — focused on training, but a few provided assessment and counseling and others included the development of a training facility of resource center that the firms then operated on their own. For those that concentrated on training, about half relied exclusively on customized training; a very few relied exclusively on courses that the college or technical institute offered to the public at large, but most of the remaining half relied on a combination of customized training and existing courses. Of course, reliance on both existing courses and customized training provides special opportunities for combining general or "academic" preparation with firm-specific preparation, though it doesn't prove that integration in fact takes place. Almost all the training was directed at job-specific skills, though a very few of the partnerships included non-specific education including "workplace literacy" courses designed to improve basic skills and a few enrichment or refresher courses.

The location and provision of training also illustrates the variety of arrangements which have taken place. In about half the cases where location was identified, the training took place at the college; in another quarter the firm's facilities were used, and in the remaining quarter training took place at both the firm's facilities and the the college. In perhaps 60 percent of the partnerships the college provided all the instructors; in perhaps 10 percent instruction was evenly divided between college instructors and the firm's employees, and in the remaining cases the firm provided some assistance in providing trainers. The provision of equipment was similarly varied, with the college providing all materials in about half the cases; the firm and the college jointly provided materials in slightly over one-third of these programs, and the firm provided all materials in the remaining cases. Very roughly, then, in about half of these examples of customized training, the educational institution provided the location, instructors, and materials, but in the remaining half there were contributions of facilities, instructors, and materials by the firms involved, with "partnership" — a rough division of contributions — more common in these cases than contributions by the firm alone.

In about one third of the cases where the reason for collaboration could be identified, firms needed additional employees in particular occupations that were unavailable in the area, indicating that remedying skill shortages may be the most important purpose of customized training. Another quarter of cases required new skills because of technological change, and about one fifth provided retraining to existing workers to avoid potential layoffs, particularly in cases where firms changed the kind of production taking place in a local facility.

Obviously the interests of the firms involved was foremost in these projects, but in at least six of the forty-five partnerships examined the firm intended the training program to benefit particular groups with special employment needs including the handicapped, high school dropouts, and AFDC recipients. In these cases the training often focused on "employability skills", including assessment and training aimed at helping individuals to develop appropriate work-related attitudes and effective job-seeking skills and to identify their vocational interests and training needs. These particular partnerships appear to be JTPA programs (and perhaps welfare-to-work programs) which operate by placing individuals in firms for on-the-job training, creating a very different type of partnership than customized training represents.

The selection of individuals for training is often unclear. Where the method can be identified, the firms involved chose participants about half the time, the educational institutions chose participants in about one quarter of cases, and there was joint selection in the remaining cases. Of course, for those programs that involved retraining to prevent layoffs or skills upgrading to meet the requirements of new technologies — which represented about 45 percent of these programs examined — selection by the firm is all but unavoidable. While the potential problem of discrimination in customized training programs exists, then, it appears that the educational institutions play a role in selecting participants in most cases of entry-level training, and so possibilities for discrimination may not be especially serious.

The funding of these customized training programs is difficult to ascertain, and multiple funding sources exist in at least half of these efforts. However, the firms involved (or the firms and their labor unions) provided the major funding in about half these programs; the state provided major funding in one third of these cases, the college itself in slightly over ten percent of cases, and the Job Training Partnership Act in another fifth. In addition, at least some of these projects benefited from indirect government subsidies: several built training facilities with Industrial Development Bonds, which have lower interest rates because of their tax-free status and therefore involve federal and state subsidies. Most of these programs are supported by government resources in some way, therefore, though the relative balance of public and private funding remains unclear.

Another source of information about funding patterns comes from the state-funded job training programs that have been enacted recently, many of which provide resources for community colleges and technical institutes to provide customized training. In about one third of the states that have established job training programs related to economic development, there is a requirement that the firms match public contributions dollar for dollar, insuring that the state pays 50 percent or less of the total cost.[5] Thus there have been safeguards, at least in some states, to assure that firms cannot simply support private training at public expense. The sharing of costs is also a mechanism by which firms can pay for the specific aspects of training while the state pays for more general aspects and for the public benefits.

The most elusive aspects of the customized training programs we reviewed are their outcomes. Clearly there are many educational institutions and firms that are pleased with existing programs,[6] but there is no other evidence about placement rates, earnings, long-term employment of participants, or changes in the firms' productivity. In some state programs, the concern with the firm as the principal client and the desire to make firms as receptive as possible to public programs have led to efforts to minimize red tape and reporting requirements, reducing the information available about any aspects of programs (Stephens, 1987). Some have argued that the satisfaction of firms with existing arrangements is all that matters, and other measures of outcomes are superfluous. But this position is surely extreme: if the purpose of customized training is to promote economic development, as measured by employment gains in an area, earnings increases, firm productivity, and overall production (or regional product), then it is insufficient to know simply whether firms are pleased with the results of vocational education and training. Over the long run it will be necessary to develop better information about the effects of these programs, for different groups of individuals, under varying economic conditions.

However, even this brief review of a small and non-random sample of customized training programs reveals how much is going on. Many of the programs have the potential for exploiting the real strengths of customized training programs: they appear to be genuine collaborations between employers and educational institutions, and many can combine firm-specific and highly customized training with more general education. The potential problem of bias in selecting applicants may not be a serious issue. In general there appears to be a division of costs between the public and the private sector, rather than large numbers of cases where the public sector bears the costs of wholly private training. The effects of these programs on the the long-run employment of participants and on the productivity of employers remain unknown, but,the structure of existing programs seems to live up to many of the claims made on behalf of customized training.

Some Conclusions and Recommendations

One implication of this analysis is that customized training — indeed, all vocational programs intended to enhance economic development, and all partnerships — should be more systematically evaluated, since not all such programs will enhance employment, earnings, income, or productivity even in cases where they satisfy all

the immediate participants. The evaluation of such programs has not even begun, partly because such evaluations are technically difficult, and examining the effects of educational programs is notoriously hard. Still, the variety of customized training is astounding, and these programs provide examples for efforts to disentangle what works and what doesn't. One obvious and preliminary step would be to undertake systematic surveys of such efforts, to ascertain their intentions, the kinds of firms they help, the division of costs, and the potential effects. Yet another would be to induce more vocational programs — including these new programs — to evaluate their own consequences, as a way of building up increasing amounts of information about the effects of such programs. This would be part of a much larger agenda to increase the amounts of information available about the effects of vocational programs for students completing them and for the firms in which they work.

Until more information is developed on the effects of different types of economic development efforts, there can be only the sketchiest implications for policy. However, one obvious conclusion is that states and the federal government need to be concerned with economic development efforts that merely reallocate existing employment among localities and states, rather than adding to employment and productivity in the aggregate. While the conventional wisdom is that "smokestack chasing" is outmoded as a model of economic development, there are still many anecdotes (as well as nationally-publicized efforts of states to snare such prizes as the Super Conducting Super Collider and the Sematech Corporation) suggesting that these "beggar-thy-neighbor" practices have not been abandoned. The persistence of "smokestack chasing" can be traced to an imbalance between local incentives and state purposes — where community colleges have every incentive to increase local employment, even at the expense of another region within the state — or between state incentives and national goals. Therefore the only long-run solution is for state governments and federal policy to counter these incentives, at the very least by insuring that their resources are not used for smokestack chasing.

Another recommendation involves the need for more careful targeting of economic development efforts, including customized training. While vocational education has the potential for enhancing productivity, and doing so without increasing prices or inflation, vocational education does not *automatically* lead to such benefits since the nature of demand limits its effects. If demand is insensitive to price, then increases in employment and wages from either training

or retraining are likely to be small, implying that vocational programs should be targeted on those occupations for which demand is relatively responsive to supplies of trained workers and to wages. The use of vocational education to alleviate skill shortages again assumes that vocational programs are targeted only on those occupations for which skill shortages are known to exist (and not merely on occupations for which employers complain about their inability to find enough workers at low wages). Similarly, the use of vocational education as part of a strategy to stimulate exports, or reduce reliance on imports, requires limiting public subsidies only to certain sectors of a local economy. Targeting of vocational education on the occupations and the firms which might expand employment and production, rather than supporting vocational education in general with the hopes that economic development will magically materialize, is still unfamiliar to most (but not all) states, but it is an obvious corollary of realizing that some vocational education for certain occupations and sectors is unlikely to enhance economic development.

Another obvious recommendation is that governments at all levels should continue to stimulate demonstration projects and "experiments", encouraging postsecondary institutions and job training programs to develop innovative approaches — and then to evaluate these efforts carefully to ascertain their consequences. In the past such evaluations have been infrequent, and even the federal government has avoided much evaluation of vocational programs. For example, some program improvement funds available through the Carl Perkins Act could be earmarked to evaluate the effects of customized training programs on economic development[7] and the results would be instructive to institutions deciding which programs to institute. In addition, states can undertake their own demonstration projects, as they frequently do when they develop pilot programs or novel approaches to job training, using either state resources or federal funds from the Perkins Act and the Job Training Partnership Act.

The postsecondary institutions providing vocational education and training are now like laboratories — laboratories of educational experimentation, trying new program models, new approaches to old problems of preparation for work, new methods of working with firms and with other training agencies. The amount of ferment in this area is astounding, indicating both the importance of this subject and the creativity which educators and employers are bringing to new models. Some of these experiments will prove not to work, while others will undoubtedly be judged successful and then

institutionalized in state and federal policies. But such discoveries are part of the normal process of developing new approaches and techniques. What counts for the moment is that there is so much activity from which to develop the next generation of vocational programs.

Footnotes

[1]The most important of these is the use of programs to balance variations in unemployment rates, for example by luring employment from low-unemployment to high-unemployment regions. On the limitations of vocational programs in the service of economic development, see Grubb and Stern (1989).

[2]Oral presentation, David Mertes, Chancellor, California Community Colleges, "Illuminating the Learning Society", Center for Studies in Higher Education, University of California at Berkeley, Oct. 24, 1988.

[3]For other arguments for flexibility, see Doeringer, Terkla, and Topakian (1988) and Spenner (1988).

[4] There are 45 programs in the sample examined initially, including all those who applied to the AACJC in 1989. This analysis has been carried out by Robert Lynch at the AACJC, with support from the National Center for Research in Vocational Education. In subsequent research, he will gather additional information about these projects as well as developing a more comprehensive "census" of economic development efforts in community colleges and technical institutes.

[5]There is a 1:1 match in the programs in Idaho, Kansas (for retraining only), Kentucky, Massachusetts, Missouri, New Mexico, and Ohio; the 1:1 match in Delaware and New Jersey can be waived in some circumstances; and Indiana's Basic Industry Retraining Program pays 25 percent of the costs. In the other twenty or so states with programs there are no contributions required from businesses, though what contributions firms make in practice is unknown. See Grubb and McDonnell (1989), Table A.1.

[6]Of course, the bias in our sample — its restrictions to those that have nominated themselves for the KAW awards — will generate more bias in comments about how well programs are working than in other descriptions of programs.

[7]For the proposal that federal support of postsecondary vocational education support more "coordinated social experimentation", see Grubb (1989).

References

Becker, G. (1975). Human Capital, Second Edition. New York: Columbia University Press for the National Bureau of Economic Research.

Brint, S., and Karabel, J. (1989). The Diverted Dream: Community Colleges and the Promise of Educational Opportunity in America, *1900-1985*. New York: Oxford University Press.

Doeringer, P., Terkla, D. and Topakian, G. (1987). Invisible Factors in Local Economic Development, New York: Oxford University Press.

Fadale, L., and Winter, G. (1988). Impact of Economic Development Programs in SUNY Community College: A Study of Contract *Courses*. Office of Community Colleges, State University of New York, Fall.

Grubb, W. N. (1979). The Phoenix of Vocationalism: Implications for the Evaluation of Vocational Education. In The Planning Papers for the Vocational Education Study, National Institute of Education, April.

Grubb, W. N. (1984). The Bandwagon Once More: Vocational Preparation for High-Tech Occupations, Harvard Educational Review 54 (November.

Grubb, W. N., and McDonnell, L. (1989). Work-Related Education and Training: The System and the Policy Instruments, Working Draft WD-4339-1-UCB, The RAND Corporation, November.

Grubb, W. N., and Stern, David (1989a). Long Time A'Comin': Options for Federal Financing of Postsecondary Vocational Education. Berkeley: MPR Associates for the National Assessment of Vocational Education, January.

Grubb, W. Norton, and Stern, D. (1989b). Separating the Wheat from the Chaff: The Role of Vocational Education in Economic Development, Berkeley: National Center for Research in Vocational Education, University of California, Berkeley, June.

Lazerson, M., and Grubb, W. N. (1974). American Education and Vocationalism: A Documentary History. New York: Teachers College Press.

Levitan, S., and Mangum, G. (1969). Federal Training and Work Programs in the Sixties. Ann Arbor: Institute of Labor and Industrial Relations, University of Michigan.

Office of the Legislative Analyst, State of California (1986). Review of the Employment and Training Panel Program, April.

Spenner, K. (1988). Technological Change, Skill Requirements, and Education: The Case for Uncertainty. In Richard Cyert and David Mowery, The Impact of Technological Change on Employment and Economic Growth. Cambridge: Ballinger Publishing Co. for the National Academy of Sciences Committee on Science, Engineering, and Public Policy.

Stephens, D. (1987). State Industry-Specific Training Programs: Design and Assessment Issues, Columbia, Missouri: Department of Economics, University of Missouri-Columbia, December.

Stern, D., and Grubb, W. N. (1988). Factor Complementarity, Skill Specificity, and the Distribution of Benefits from Vocational Education. School of Education, University of California, Berkeley, December.